Do you ever think about the food you eat? How it grows? What plant parts we eat? Most of us take this for granted. Food is used for more than just food... but many of the items we use everyday come from food. Some of the new skills that you can learn in the 4-H Horticulture and Gardening project are listed on the left. Check your favorites and then work with your 4-H leaders and parents to make a 4-H project plan of what you want to do and learn this year.

Herbs can be grown as seasonings for food. They can also be included in traditional gardening as companions to the vegetables. Herbs, combined with specific vegetables, can protect the vegetables from different types of diseases and bugs. Using the word list below, fill in the missing letters to identify the herb or vegetable that can be used for companion gardening.

**COMPANION GARDENING**

- **Tomatoes**
  - B A S I L
  - Repels flies, hornworms, and mosquitos

- **Carrots**
  - C H I V E S
  - Deters a variety of insects

- **Cabbage**
  - T H Y M E
  - Repels cabbage worms

- **Onions**
  - S U M M E R S A V O R Y
  - Deters a variety of insects

- **Potatoes**
  - H O R S E R A D I S H
  - Deters potato beetles

- **Cucumbers**
  - R A D I S H
  - Deters cucumber beetles

- **Beans**
  - R O S E M A R Y
  - Deters bean beetles

- **Squash**
  - N A S T U R T I U M
  - Repels squash bugs

**WORD BOX**

- RADISH
- BASIL
- HORSE RADISH
- CHIVES
- SUMMER SAVORY
- THYME
- NASTURTIUM
- ROSEMARY
Use the step-by-step directions below to plant a garden. Follow the vegetable planting guide on the next page to properly plant five tomato plants. Denote the location of the tomato plants with a “T.”

1. Plant your rows facing east. Begin planting your non-stake tomatoes by starting at the northeast corner of your garden.

   a. If you plant the tomatoes on June 1, what is the earliest date that the tomatoes would be ready to eat? JULY 10
   b. What would be the latest date? AUGUST 9

2. Sweet corn is next. You have decided to plant only 10 feet of corn. Mark your corn with a “C.”

   a. If you have one packet of corn seed, how many rows of corn can you plant if your garden is 10 feet wide? 5

3. You have decided to plant one row of summer squash. The squash will be planted on the west end of the garden. Mark the correct placement of the squash with an “S.”

   a. If the squash was ready to pick on August 20, on what date were the seeds planted? The squash had 55 days to grow. OCTOBER 14

5. Lima beans will also be planted. Use a to denote where the lima beans will be located in the garden.

6. Which plant will be harvested first? Next, plant a cool crop of 120 carrot plants in their place. Place a to denote the location. TOMATOES
<table>
<thead>
<tr>
<th>VEGETABLE</th>
<th>SEASON</th>
<th>SPACE BETWEEN ROWS (feet)</th>
<th>SPACE BETWEEN PLANTS (inches)</th>
<th>YIELD PER 50 FEET</th>
<th>AMOUNT OF SEED OR NUMBER OF PLANTS</th>
<th>DEPTH TO PLANT (inches)</th>
<th>DATES TO PLANT</th>
<th>DAYS TO ALLOW FOR FIRST HARVEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beets</td>
<td>Cool</td>
<td>1</td>
<td>3</td>
<td>1 bushel</td>
<td>1 ounce</td>
<td>1/2 to 1</td>
<td>4/1 to 6/25</td>
<td>55 to 65</td>
</tr>
<tr>
<td>Blackeyed peas</td>
<td>Cool</td>
<td>1</td>
<td>3</td>
<td>1 ounce</td>
<td>1 packet</td>
<td>1/2</td>
<td>4/10 to 6/20</td>
<td>70 to 75</td>
</tr>
<tr>
<td>Broccoli</td>
<td>Cool</td>
<td>3</td>
<td>18</td>
<td>36 heads</td>
<td>36 plants</td>
<td>1/2</td>
<td>4/15 to 5/20</td>
<td>40 to 55</td>
</tr>
<tr>
<td>Cabbage</td>
<td>Cool</td>
<td>3</td>
<td>18</td>
<td>36 heads</td>
<td>36 plants</td>
<td>1/2</td>
<td>4/15 to 5/20</td>
<td>55</td>
</tr>
<tr>
<td>Cantaloupe</td>
<td>Warm</td>
<td>4</td>
<td>48</td>
<td>25 melons</td>
<td>1 packet</td>
<td>1/2</td>
<td>5/15 to 6/1</td>
<td>85 to 90</td>
</tr>
<tr>
<td>Carrots</td>
<td>Cool</td>
<td>1</td>
<td>2</td>
<td>1 bushel</td>
<td>1/2 ounce</td>
<td>1/2</td>
<td>5/10 to 6/20</td>
<td>70 to 75</td>
</tr>
<tr>
<td>Cauliflower</td>
<td>Cool</td>
<td>3</td>
<td>18</td>
<td>36 heads</td>
<td>36 plants</td>
<td>1/2</td>
<td>4/15 to 6/25</td>
<td>50 to 60</td>
</tr>
<tr>
<td>Chinese cabbage</td>
<td>Cool</td>
<td>1</td>
<td>3</td>
<td>36 heads</td>
<td>36 plants</td>
<td>1/2</td>
<td>4/15 to 6/25</td>
<td>50 to 60</td>
</tr>
<tr>
<td>Collards</td>
<td>Cool</td>
<td>1</td>
<td>3</td>
<td>36 heads</td>
<td>36 plants</td>
<td>1/2</td>
<td>5/10 to 6/20</td>
<td>90 to 130</td>
</tr>
<tr>
<td>Cucumber (for slicing)</td>
<td>Warm</td>
<td>4</td>
<td>18</td>
<td>3/4 bushel</td>
<td>1 packet</td>
<td>1/2</td>
<td>5/15 to 7/1</td>
<td>55 to 70</td>
</tr>
<tr>
<td>Cucumber (for pickling)</td>
<td>Warm</td>
<td>4</td>
<td>18</td>
<td>3/4 bushel</td>
<td>1 packet</td>
<td>1/2</td>
<td>5/15 to 7/1</td>
<td>55 to 70</td>
</tr>
<tr>
<td>Eggplant</td>
<td>Warm</td>
<td>2</td>
<td>24</td>
<td>60 fruit</td>
<td>24 plants</td>
<td>1/2</td>
<td>5/15 to 6/1</td>
<td>55 to 70</td>
</tr>
<tr>
<td>Potato    (pieces)</td>
<td>Cool</td>
<td>3</td>
<td>10</td>
<td>1 bushel</td>
<td>60 pieces</td>
<td>4</td>
<td>4/20 to 6/1</td>
<td>90 to 130</td>
</tr>
<tr>
<td>Sweet potato (plants)</td>
<td>Cool</td>
<td>3</td>
<td>12</td>
<td>1 bushel</td>
<td>50 plants</td>
<td>1/2</td>
<td>5/20 to 6/10</td>
<td>130 to 140</td>
</tr>
<tr>
<td>Leaf lettuce</td>
<td>Cool</td>
<td>1</td>
<td>4</td>
<td>150 plants</td>
<td>2 packets</td>
<td>1/2</td>
<td>3/20 to 6/15</td>
<td>55 to 70</td>
</tr>
<tr>
<td>Lima beans</td>
<td>Warm</td>
<td>2</td>
<td>6</td>
<td>1 bushel</td>
<td>1/2 pound</td>
<td>1/2</td>
<td>5/15 to 6/15</td>
<td>55 to 70</td>
</tr>
<tr>
<td>Okra</td>
<td>Warm</td>
<td>2</td>
<td>12</td>
<td>500 roots</td>
<td>1/2 ounce</td>
<td>1/2</td>
<td>3/20 to 6/15</td>
<td>25 to 30</td>
</tr>
<tr>
<td>Onion (sets)</td>
<td>Cool</td>
<td>1</td>
<td>2</td>
<td>1 bushel</td>
<td>1 pound sets</td>
<td>1/4</td>
<td>4/1 to 5/1</td>
<td>90 to 120</td>
</tr>
<tr>
<td>Onion (slips)</td>
<td>Cool</td>
<td>1</td>
<td>2</td>
<td>1 bushel</td>
<td>300 slips</td>
<td>1/4</td>
<td>4/1 to 5/1</td>
<td>60</td>
</tr>
<tr>
<td>Peas</td>
<td>Warm</td>
<td>1</td>
<td>1</td>
<td>1 bushel</td>
<td>1/2 pound</td>
<td>2</td>
<td>3/20 to 6/15</td>
<td>60 to 75</td>
</tr>
<tr>
<td>Peppers</td>
<td>Warm</td>
<td>2</td>
<td>18</td>
<td>2 bushels</td>
<td>35 plants</td>
<td>1/2</td>
<td>5/15 to 7/1</td>
<td>55 to 70</td>
</tr>
<tr>
<td>Radishes</td>
<td>Cool</td>
<td>1</td>
<td>1</td>
<td>500 roots</td>
<td>1/2 ounce</td>
<td>1/2</td>
<td>3/20 to 6/15</td>
<td>25 to 30</td>
</tr>
<tr>
<td>Snap beans (bush)</td>
<td>Warm</td>
<td>2</td>
<td>2</td>
<td>1 bushel</td>
<td>1/2 pound</td>
<td>1/2</td>
<td>5/10 to 7/20</td>
<td>55 to 60</td>
</tr>
<tr>
<td>Spinach</td>
<td>Cool</td>
<td>1</td>
<td>3</td>
<td>25 pounds</td>
<td>1 ounce</td>
<td>1/2</td>
<td>3/20 to 6/15</td>
<td>40 to 45</td>
</tr>
<tr>
<td>Summer squash</td>
<td>Warm</td>
<td>4</td>
<td>48</td>
<td>100 squash</td>
<td>1 packet</td>
<td>1/2</td>
<td>5/15 to 6/15</td>
<td>50 to 60</td>
</tr>
<tr>
<td>Winter squash, pumpkins</td>
<td>Warm</td>
<td>6</td>
<td>72</td>
<td>25-50 squash</td>
<td>1 packet</td>
<td>1</td>
<td>5/15 to 6/15</td>
<td>85 to 110</td>
</tr>
<tr>
<td>Sweet corn</td>
<td>Warm</td>
<td>3</td>
<td>12</td>
<td>50 ears</td>
<td>1 packet</td>
<td>1/2</td>
<td>5/10 to 7/10</td>
<td>65 to 85</td>
</tr>
<tr>
<td>Tomato (staked)</td>
<td>Warm</td>
<td>4</td>
<td>24</td>
<td>100 pounds</td>
<td>25 plants</td>
<td>1/2</td>
<td>5/15 to 6/20</td>
<td>40 to 70</td>
</tr>
<tr>
<td>Tomato (non-staked)</td>
<td>Warm</td>
<td>4</td>
<td>36</td>
<td>100 pounds</td>
<td>17 plants</td>
<td>1/2</td>
<td>5/15 to 6/20</td>
<td>40 to 70</td>
</tr>
<tr>
<td>Turnips</td>
<td>Cool</td>
<td>1</td>
<td>4</td>
<td>1 bushel</td>
<td>1 packet</td>
<td>1/2</td>
<td>4/1 to 6/15</td>
<td>60 to 90</td>
</tr>
<tr>
<td>Watermelons</td>
<td>Warm</td>
<td>6</td>
<td>48</td>
<td>15 melons</td>
<td>1 packet</td>
<td>1</td>
<td>5/15 to 5/25</td>
<td>75 to 90</td>
</tr>
</tbody>
</table>
LEARNING TO LEAD

As a 4-H project leader, you should be able to share your skills, knowledge and experiences with younger 4-H members. The following group activity can be used to assist you in planning your next project group meeting and in teaching younger members horticulture and gardening information.

GARDEN GROUPINGS

Materials needed:
- Copies of the fruits and vegetables on the following pages
  You will need one set of cards for each person or group (two to four people per group). Laminating the cards is optional.
- Ziploc™ bags

Directions:
- Cut out the fruit and vegetable cards following the dotted lines.
- Place the cards in a Ziploc™ bag.
- Pass the Ziploc™ bags out -- one to each person or group.
- Place the cards on a table face up.
- Group the fruits and vegetables into groups of threes based on commonalities i.e., color, plant parts we eat, used for decorations, can be eaten in a salad, used to make salsa, names start with the same letter of the alphabet, etc...
- Make a list of the groups and the fruits and vegetables that make up the list.
- The objective is to create as many groups as possible.
- The fruits and vegetables may be used more than once.

REFLECTION

As an advanced horticulture and gardening project member, you have gained many useful skills. These are skills you can use for a lifetime. Reflect on the things you have learned. Think about how having this knowledge makes you feel. Using the letters below, highlight your new skill set and feelings. An example has been provided.

What I’ve Learned ...       How I Feel ...

GRADEN

growth seasons               grateful

CAREER SEARCH

1. Find a person in your community or family member who uses horticulture/gardening in his or her profession. Set up an interview. Create a list of questions you would like to ask. A few examples are...
What do you like best about your job?
How does horticulture/gardening relate?
What kind of education/training do you have?

What other questions would you like to ask? Think about it and write them in the space below.
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

2. How will you record the interview? Will you write or tape the responses? Will you videotape it?

3. How are you going to share the interview with others? Will you write a report? Create a news article? Design a video. Power Point™ or DVD? Whatever the format, make sure that it is okay with the interviewee!

4. What did you learn with this project? List below three new skills you developed:
__________________________________________________________________
__________________________________________________________________
__________________________________________________________________

SERVICE IDEAS

Share your knowledge with others! Give a project demonstration about one aspect of horticulture/gardening.

Assist an assisted living home in developing a flower, herb or vegetable garden.

Grow an herb container garden. Decorate the pots and give them away as gifts.

RESOURCES

School and public libraries
Horticulture and Gardening manual
4-H project leader/groups

The following Website was used to create this activity sheet. To learn more horticulture and gardening skills visit:
www.n4hccs.org
www.utextension.utk.edu/4h/projects/
Don’t forget! For more ideas and info, contact your local 4-H office.

OTHER

4-H Demonstration
4-H Skill-a-thon

Combine efforts with a Nutrition, Health and Fitness project group leader to create and design a “Good Foods” guide. Use the guide to highlight various foods, why they are good for you and how to grow them.

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development, University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating.

UT Extension provides equal opportunities in programs and employment.
orange, pepper, onion, strawberry, broccoli, squash, potato, cauliflower, turnip, cucumber
watermelon
tomato
beans
celery
pumpkin
grapes
apple
carrot
watermelon
peas
corn